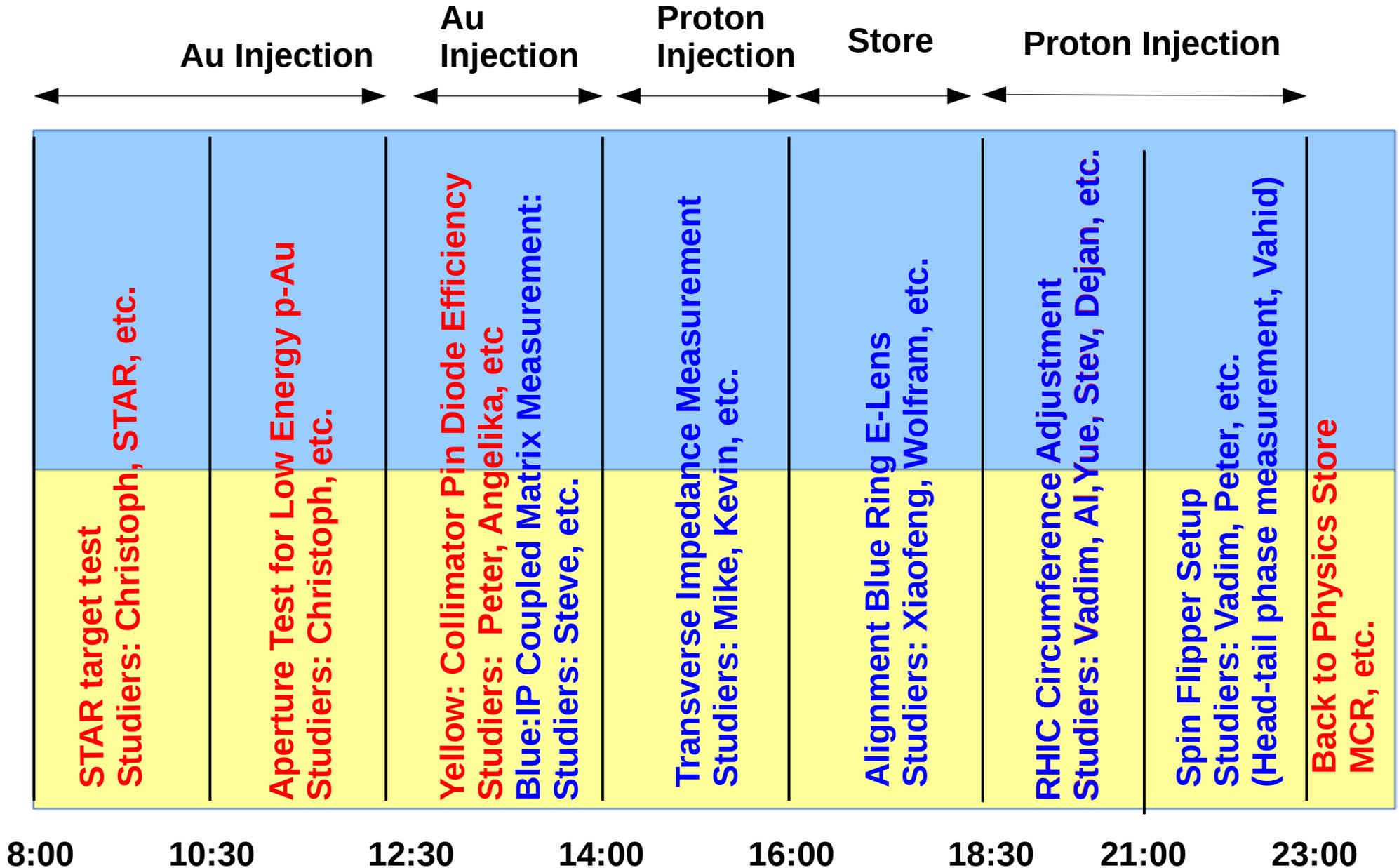


APEX Schedule for May 20, 2015

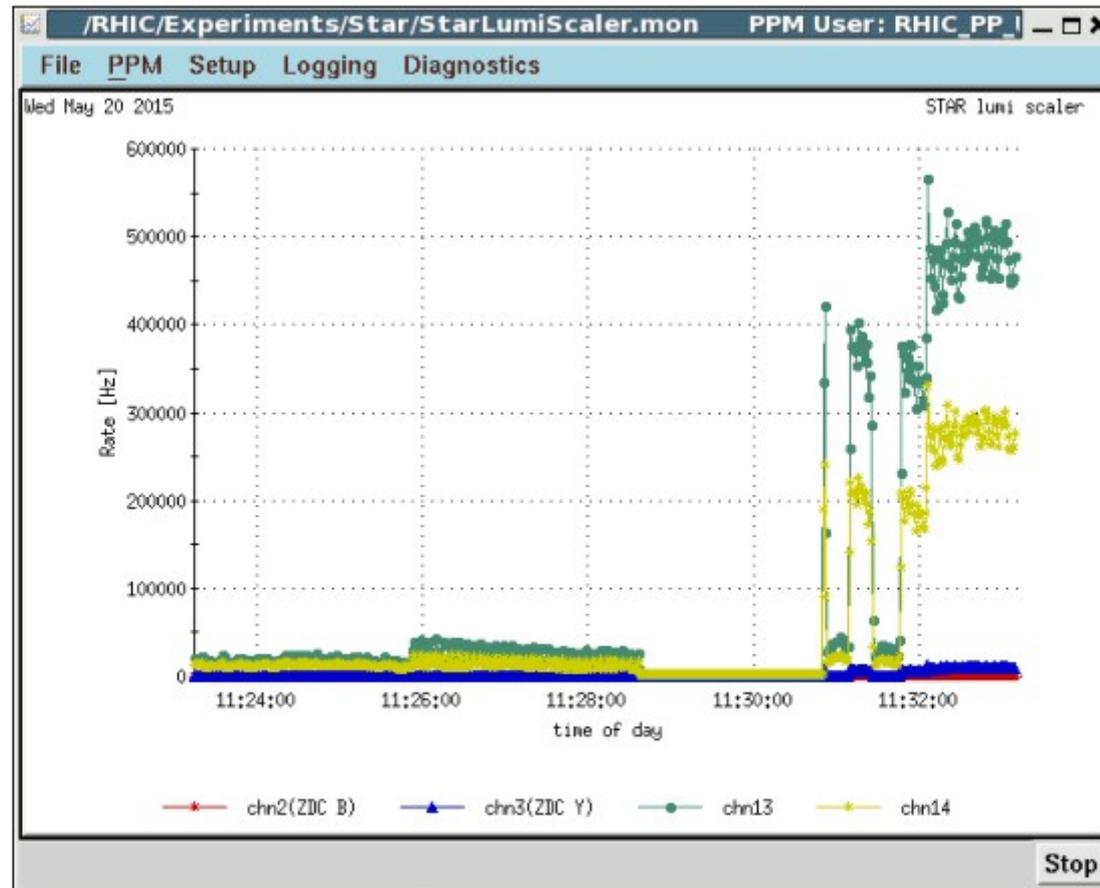


STAR Target Test

C. Montag, etc.

- With one Yellow bunch in the machine, lowered orbit at STAR by 5 mm on top of -5 mm separation bump, to -10 mm
- Moved vertical tune towards .20 to increase target interaction rate
- Watched lumi scalers (BBC counting rate) to tune
- 6-bunch “store” for STAR data taking; 1 million events recorded
- STAR will analyze the data; collisions seem to be coming from the target area and look like Au on Au

Lumi scalers



500 kHz BBC counting rate with 6 bunches
Safe limit for STAR would be around 6 MHz

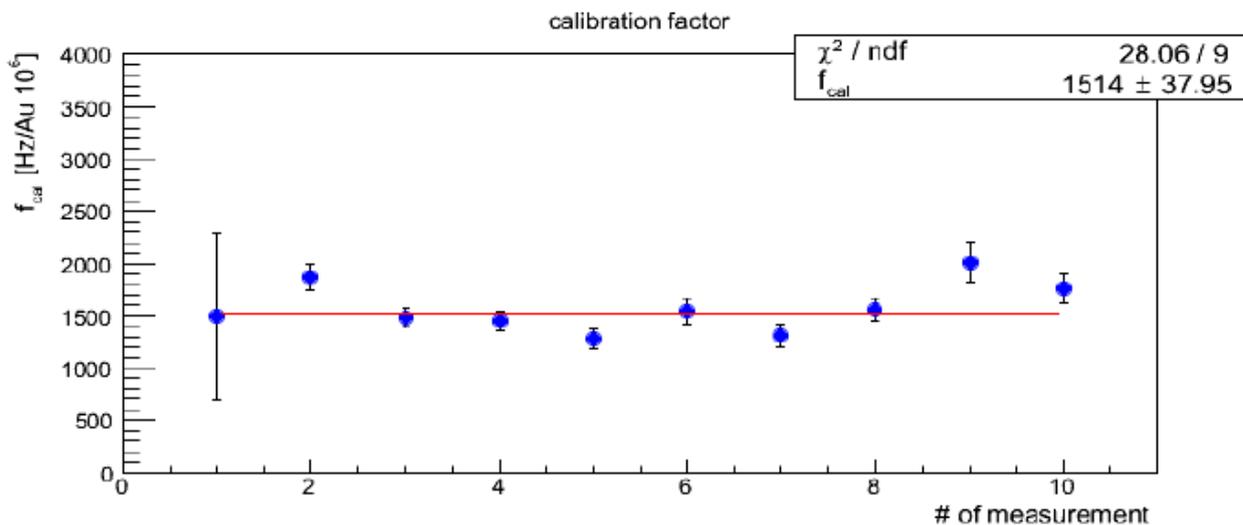
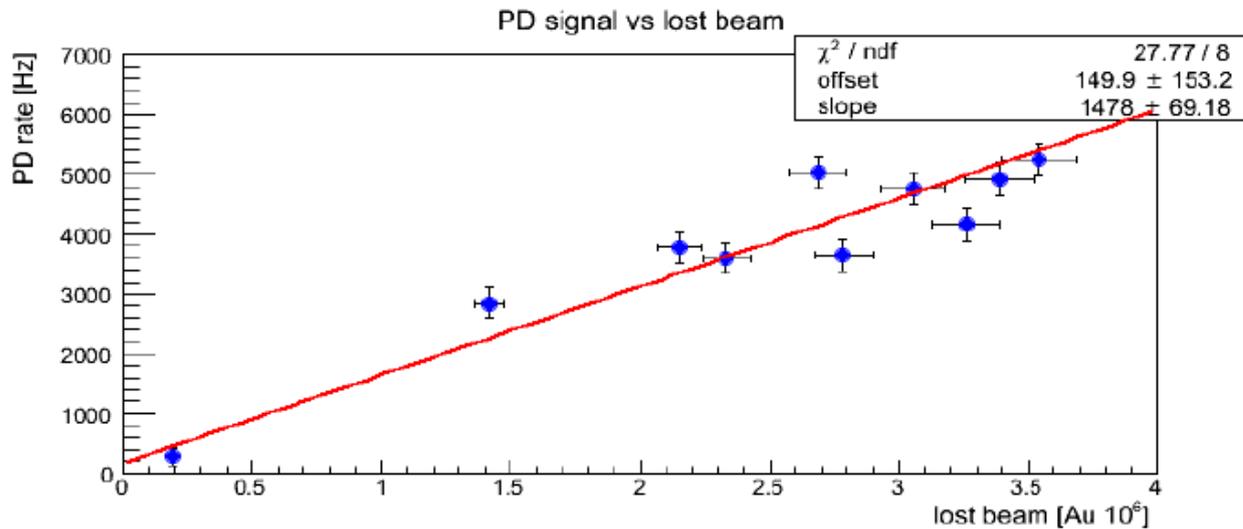
Aperture Test for Low Energy Asymmetric Runs

C. Montag, etc.

- Changed DX-D0 angles at Au injection to achieve collision orbit
- Increased emittance with BBQ kickers and observed with IPM
- Measured emittances increased only by 20 percent, indicating that a 20 percent lower energy than regular injection would be the lower limit
- Why horizontal emittance (aperture) is larger than vertical one is still a mystery

Collimation Pin Diode Efficiency

Angelika, Peter, Christoph



- 10 measurements (first is the continuous loss)
- Result:

$$f_{\text{cal}} = 1500 \text{ Hz}/10^6 \text{ Au ions} \pm 170$$

(or 1 out of 670 lost Au ions @ 10 GeV is detected by the PD)

IP Coupled Matrix

Steve Tepikian

Had 6 measurement. Three are good.

	Case 1		Case 2		Case 3	
	Value	$\pm\sigma$	Value	$\pm\sigma$	Value	$\pm\sigma$
α_1	0.00176	0.01068	0.00147	0.03946	0.01762	0.00940
β_1	10.184	0.142	10.108	0.212	9.941	0.126
α_2	0.02397	0.00756	0.01478	0.01473	0.00773	0.00582
β_2	9.737	0.109	9.673	0.205	9.519	0.112
a	-0.0336	0.0070	-0.0398	0.0059	-0.0341	0.0035
b	0.4383	0.8573	0.9132	0.6877	1.2221	0.3278
c	-0.0048	0.0085	-0.0096	0.0069	-0.0147	0.0032
d	-0.0542	0.0081	-0.0386	0.0158	-0.0538	0.0062
χ^2	1.56		4.92		0.94	

E-lens related beam-beam experiment

Xiaofeng, Wolfram, etc.

Findings:

1. e-beam has different initial angle (0.85 mrad) with p-beam angle (-2.4 mrad after reduce proton beam angle). This is different from previous pp run. Finally, we only get -0.53 mrad with 45 A long corrector.
2. p-beam should keep 5 mm vertical bump
3. short corrector 3 didn't accept setpoint. Short corrector 5 accept setpoint and change both two bpm offset.
4. reducing **GSB current** from 700 A to 320 A can move e-beam to from 0 +10 mm and don't need to change csx.
5. **Lisa** still moves **proton beam position** from -10 mm to 10 mm vertically and horizontally from 15mm to 5 mm at least.
6. Move position first, then angle.
7. Injection or store (more eBSD signal?)
8. **Plan**: move e-beam angle during next Wednesday and save setting.